

NW500

Non-Mydriatic Retinal Camera

Enhanced image quality in ambient light*, even for eyes with small pupils.



 **TOPCON** Healthcare

Next-generation fundus imaging offering bright and sharp images in well-lit conditions¹, even in eyes with small pupils².

Sharp, high-quality images
Small pupils
Easy to use
Robotic



OVERVIEW



Slit-scan technology to image through **small pupils** (φ2.0mm or larger³)



12MP sensor for **enhanced image quality**⁴



Automatic, rapid, one-touch image capture



Flexible positioning against a wall/in a corner



Compact design fits into almost any exam setting



Wide variety of connectivity options for **seamless integration** and workflow⁵

1. A room with a brightness of 623 lux or less

2. φ2.0 mm or larger, tested on model eye

3. Confirmed with model eye

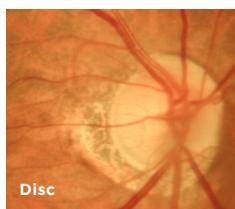
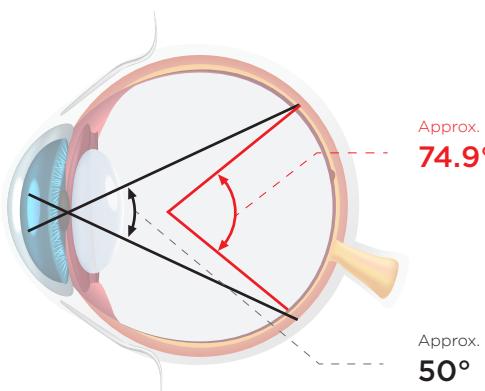
4. As compared to Topcon non-mydriatic retinal camera TRC-NW400

5. Multiple connections with Direct DICOM, Ez Capture, IMAGEnet[®]6, Shared folder and Direct Storage (USB/LAN)

KEY FEATURES

EXCELLENT QUALITY FUNDUS IMAGE

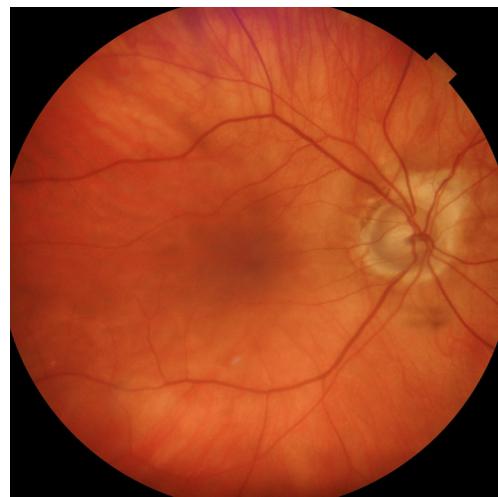
At an angle of view of 50 degrees (approx. 74.9 degrees at the spherical centre of the eye)⁶, the NW500 can capture a wider area than conventional models. Capable of capturing fundus images through a pupil diameter as small as 2.0mm, it provides sharp, detailed colour fundus images in dark and brightly lit rooms.¹



Epiretinal membrane
Courtesy: Hanemoto Eye Clinic, Japan

INTRODUCING NEW SLIT-SCAN PHOTOGRAPHY

Innovative slit-scan illumination and rolling shutter mechanism in the NW500 produces excellent quality colour fundus images with less flare and shadow.⁴ The slit-scan mechanism helps to overcome one of the known causes of poorly graded images with its ability to effectively image through small pupils. This innovative technology also helps the NW500 capture sharp, high-quality fundus images, regardless of miosis and the lighting conditions, unlike conventional fundus cameras.



Eye with cataract, pupil size: Ø2.0mm
Courtesy: Silicon Valley Eyecare Optometry and Contact Lenses in Santa Clara, CA

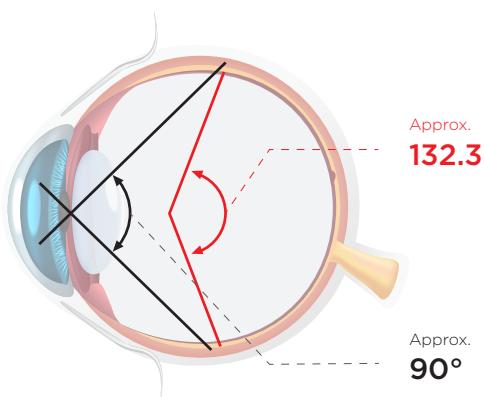
6. Xincheng Yao, Devrim Toslak, Taeyoon Son, Jiechao Ma. Understanding the relationship between visual-angle and eye-angle for reliable determination of the field-of-view in ultra-wide field fundus photography. *Biomedical Optics Express*, 2021 Sep 30;12(10):6651-6659.

Small pupil $\phi 2.0\text{mm}^2$
Wide 50° field of view



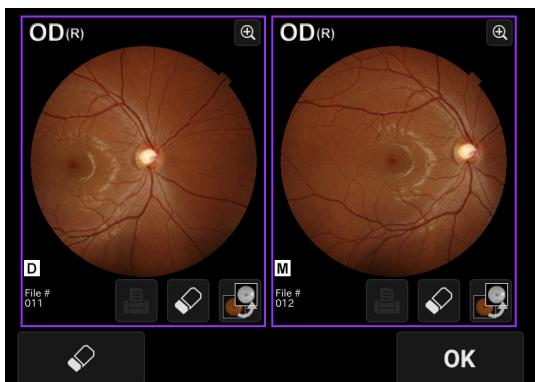
PANORAMIC WIDE-FIELD PHOTOGRAPHY⁷

In peripheral photography mode, up to 9 internal fixation positions are available to shoot peripheral areas, making it possible to create a wide panorama image with an approx. 90-degrees (approx. 132.3 degrees at the spherical centre of the eye) angle of view.



BILATERAL 2-FIELD PHOTOGRAPHY

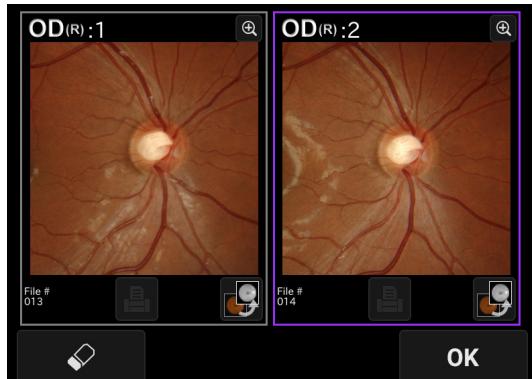
After capturing the optic nerve head, the fixation target automatically moves to the macular position and captures continuously. The NW500 allows users to confidently and smoothly shoot fundus images at different fixation positions without the need for intermediate previews.



FEATURES

STEREO PHOTOGRAPHY^{8,9}

By displaying the left and right images side-by-side for stereoscopic viewing, it is possible to observe the shape and depression of the optic nerve head, as well as the state of compression and traction.



EASE OF USE

Alignment, focusing, shooting and movement between the right and left eyes, are operated automatically with a single touch, making the NW500 easy to operate¹⁰. The need to recapture is reduced, even when taking pictures of eyes with small pupils, contributing to the overall efficiency of the fundus photography workflow.



The manual mode is used for external photography. The camera will switch to the shooting screen without auto-alignment or auto-focus. While observing the live image displayed on the monitor, it is possible to capture any area, including the pupil, iris, conjunctiva etc.¹¹



8. Performed on the monitor screen or IMAGEnet[®]

9. Glasses for stereo viewing are not included

10. If the auto-shoot setting is turned on.

11. The intended use of manual photography mode is to capture the eye's appearance as a reference. It is not intended for diagnosis.

FEATURES

SPACE-SAVING

The touch panel monitor offers 360 degrees of rotation, giving the operator the flexibility to capture fundus photography from any position. The small footprint of the device means it can be installed virtually anywhere, allowing for optimal use of the examination room.



BACK

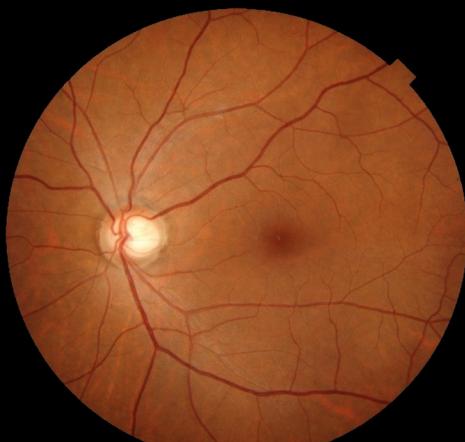


SIDE



FRONT

CASE IMAGES



A. Glaucoma



B. Diabetic Retinopathy (DR)



C. Retinal Haemorrhage



D. Branch Retinal Vein Occlusion



E. Central Serous Chorioretinopathy



F. Epiretinal Membrane

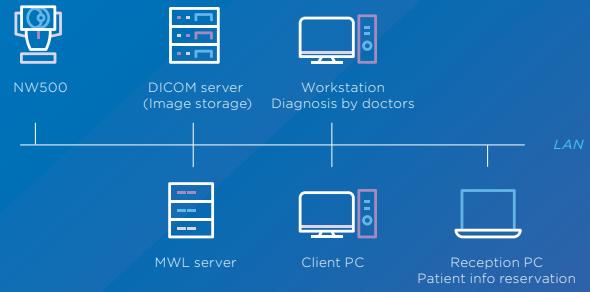
Images A-C: Courtesy: Department of Technology and Design Thinking for Medicine, Hiroshima Univ. Endowed Chair, Hitoshi Tabuchi, MD, PhD, EMBA.

Images D-F: Courtesy of Hanemoto Eye Clinic, Japan.

CONNECTIVITY

DIRECT DICOM

NW500 is DICOM compliant, making it easy to integrate with PACS and EMR programs.



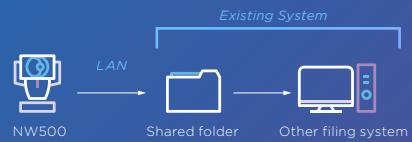
EZ CAPTURE/ IMAGENET®6

Ez Capture is standard capture software. NW500 also saves digital images to IMAGEnet®6.



SHARED FOLDER

Save images directly to a shared folder on a network. Using a shared folder, third-party software, such as diagnostic AI, can retrieve images from NW500 and save them to their software.



DIRECT STORAGE

Direct storage is the simplest configuration and does not require an external PC. Convenient for mobile stations or when a network is not being used.



SPECIFICATIONS

ANGULAR FIELD OF VIEW	50°
OPERATING DISTANCE	35.5mm
PUPIL DIAMETER FOR PHOTOGRAPHY	Normal : φ 2.5mm or higher Small pupil: φ 2.0mm or higher (confirmed with model eyes)
RESOLVING POWER ON FUNDUS	Colour image-capturing • Centre: 60 lp/mm or higher • Middle (r/2): 40 lp/mm or higher • Periphery (r): 25 lp/mm or higher
MEASURING RANGE FOR THE DIOPTRIC POWER OF THE PATIENT'S EYE	-33D to +40D -13D to +12D (when used without diopter correction lens) -33D to -12D (when used with the minus diopter correction lens) +11D to +40D (when used with the plus diopter correction lens)
INTERNAL FIXATION TARGET	OLED The display method is adjustable: • Positions • Steady light/blingking light • Blinking speed • Brightness • Shapes
EXTERNAL FIXATION TARGET	LED • Auto-alignment • Auto-focus (usable only when used without diopter correction lens) • Auto-shoot (usable only when used without diopter correction lens) • Auto-small pupil (usable only when used without diopter correction lens)
POWER SOURCE	
Source voltage	AC100-240V
Power input	70-120VA
Frequency	50-60Hz
DIMENSIONS AND WEIGHT	
Dimensions	332-426mm (W) x 540-680mm (D) x 519-769mm (H)
Weight	20kg

NOTE : In this product, 12MP digital camera is used.

OPTIONAL ACCESSORY



External fixation target

EF-2

IMPORTANT In order to obtain the best results with this instrument, please be sure to review all user instructions prior to operation.
Not all products, services, or offers are available in all markets. Contact your local distributor for country-specific information and availability.



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(IEC60825-1:2007)
PRODUIT LASER DE CLASSE 1
(CE60825-1:2007)

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